

IN THE CLAIMS

Please amend the claims to read as follows:

Listing of Claims

1-64. (Canceled).

65. (New) A radio communication system that is provided with a transmitting part radio communication apparatus and a receiving part radio communication apparatus, in which an insertion interval of a known reference signal inserted into data transmitted through a propagation path to said receiving part radio communication apparatus from said transmitting part radio communication apparatus is variable,

wherein said transmitting part radio communication apparatus includes: a known reference signal insertion interval determining section that determines the insertion interval of said known reference signal; and a reporting section that reports a fact that the insertion interval of said known reference signal can be determined, together with transmission request information of said data, to said receiving part radio communication apparatus prior to transmitting said data,

said transmitting part radio communication apparatus inserts said known reference signal into said data, in accordance with

the insertion interval of said known reference signal determined by said known reference signal insertion interval determining section, and

said transmitting part radio communication apparatus, when receiving reception preparation completion information that is a response to said transmission request information from said receiving part radio communication apparatus, determines the insertion interval of said known reference signal and transmits said data, into which said known reference signal is inserted in accordance with the insertion interval of said known reference signal, to said receiving part radio communication apparatus.

66. (New) The radio communication system according to claim 65, wherein said transmitting part radio communication apparatus refers to an information signal related to said reception preparation completion information received from said receiving part radio communication apparatus, and determines the insertion interval of said known reference signal which is optimal in said data transmission.

67. (New) A radio communication system that is provided with a transmitting part radio communication apparatus and a receiving part radio communication apparatus, in which an

insertion interval of a known reference signal inserted into data transmitted through a propagation path to said receiving part radio communication apparatus from said transmitting part radio communication apparatus is variable,

wherein said transmitting part radio communication apparatus includes: a known reference signal insertion interval determining section that determines the insertion interval of said known reference signal,

said transmitting part radio communication apparatus inserts said known reference signal into said data, in accordance with the insertion interval of said known reference signal determined by said known reference signal insertion interval determining section, and

when said transmitting part radio communication apparatus transmits data different from said data to said receiving part radio communication apparatus prior to transmitting said data and receives reception ACK information indicating that the reception of said different data from said receiving part radio communication apparatus has been completed, said transmitting part radio communication apparatus determines the insertion interval of said known reference signal and transmits said data, into which said known reference signal is inserted in accordance

with the insertion interval of said known reference signal, to said receiving part radio communication apparatus.

68. (New) The radio communication system according to claim 67, wherein said transmitting part radio communication apparatus refers to an information signal related to said reception ACK information received from said receiving part radio communication apparatus, and determines the insertion interval of said known reference signal which is optimal in transmitting said data to said receiving part radio communication apparatus.

69. (New) A radio communication system that is provided with a transmitting part radio communication apparatus and a receiving part radio communication apparatus, in which an insertion interval of a known reference signal inserted into data transmitted through a propagation path to said receiving part radio communication apparatus from said transmitting part radio communication apparatus is variable,

wherein said transmitting part radio communication apparatus includes: a known reference signal insertion interval determining section that determines the insertion interval of said known reference signal,

said transmitting part radio communication apparatus inserts said known reference signal into said data, in accordance with the insertion interval of said known reference signal determined by said known reference signal insertion interval determining section, and

said transmitting part radio communication apparatus receives an information signal transmitted to any radio communication apparatus from said receiving part radio communication apparatus, refers to said received information signal and determines the insertion interval of said known reference signal which is optimal in transmitting said data to said receiving part radio communication apparatus.

70. (New) A radio communication system that is provided with a transmitting part radio communication apparatus and a receiving part radio communication apparatus, in which an insertion interval of a known reference signal inserted into data transmitted through a propagation path to said receiving part radio communication apparatus from said transmitting part radio communication apparatus is variable,

wherein said transmitting part radio communication apparatus includes a known reference signal insertion interval determining

section that determines the insertion interval of said known reference signal,

said transmitting part radio communication apparatus inserts said known reference signal into said data, in accordance with the insertion interval of said known reference signal determined by said known reference signal insertion interval determining section, and

said known reference signal insertion interval determining section refers to a temporal variation quantity of a propagation path response, and calculates the insertion interval of said known reference signal which becomes optimal in transmitting said data.

71. (New) A radio communication system that is provided with a transmitting part radio communication apparatus and a receiving part radio communication apparatus, in which an insertion interval of a known reference signal inserted into data transmitted through a propagation path to said receiving part radio communication apparatus from said transmitting part radio communication apparatus is variable,

wherein said transmitting part radio communication apparatus includes a transmitting section that transmits information for requesting the insertion interval of said known reference signal

together with transmission request information of said data, to said receiving part radio communication apparatus prior to transmitting said data,

said receiving part radio communication apparatus includes: a known reference signal insertion interval determining section that determines the insertion interval of said known reference signal; and a reporting section that reports the insertion interval of said known reference signal determined by said known reference signal insertion interval determining section to said transmitting part radio communication apparatus, prior to transmitting said data, and

said transmitting part radio communication apparatus transmits the information for requesting the insertion interval of said known reference signal together with the transmission request information of said data, to said receiving part radio communication apparatus prior to transmitting said data, and said receiving part radio communication apparatus determines the insertion interval of said known reference signal and reports the insertion interval of said known reference signal to said transmitting part radio communication apparatus, and said transmitting part radio communication apparatus inserts said known reference signal into said data, in accordance with the insertion interval of said known reference signal reported from

said receiving part radio communication apparatus, and transmits to said receiving part radio communication apparatus.

72. (New) The radio communication system according to claim 71, wherein said receiving part radio communication apparatus refers to an information signal related to the information for requesting the insertion interval of said known reference signal and the transmission request information of said data received from said transmitting part radio communication apparatus, and determines the insertion interval of said known reference signal which is optimal in said data transmission.

73. (New) A radio communication system that is provided with a transmitting part radio communication apparatus and a receiving part radio communication apparatus, in which an insertion interval of a known reference signal inserted into data transmitted through a propagation path to said receiving part radio communication apparatus from said transmitting part radio communication apparatus is variable,

wherein said receiving part radio communication apparatus includes: a known reference signal insertion interval determining section that determines the insertion interval of said known reference signal; and a reporting section that reports the



insertion interval of said known reference signal determined by said known reference signal insertion interval determining section, to said transmitting part radio communication apparatus, and

when said transmitting part radio communication apparatus transmits data different from said data to said receiving part radio communication apparatus prior to transmitting said data, said receiving part radio communication apparatus determines the insertion interval of said known reference signal and reports the insertion interval of said known reference signal to said transmitting part radio communication apparatus, and said transmitting part radio communication apparatus inserts said known reference signal into said data, in accordance with the insertion interval of said known reference signal reported from said receiving part radio communication apparatus and transmits to said receiving part radio communication apparatus.

74. (New) The radio communication system according to claim 73, wherein said receiving part radio communication apparatus refers to an information signal related to said different data received from said transmitting part radio communication apparatus, and determines the insertion interval of

said known reference signal which is optimal in transmitting said data to said receiving part radio communication apparatus.

75. (New) A radio communication system that is provided with a transmitting part radio communication apparatus and a receiving part radio communication apparatus, in which an insertion interval of a known reference signal inserted into data transmitted through a propagation path to said receiving part radio communication apparatus from said transmitting part radio communication apparatus is variable,

wherein said receiving part radio communication apparatus includes: a known reference signal insertion interval determining section that determines the insertion interval of said known reference signal; and a reporting section that reports the insertion interval of said known reference signal determined by said known reference signal insertion interval determining section, to said transmitting part radio communication apparatus, and

said receiving part radio communication apparatus receives an information signal transmitted to any radio communication apparatus from said transmitting part radio communication apparatus, and refers to said received information signal and determines the insertion interval of said known reference signal,

and reports the insertion interval of said known reference signal to said transmitting part radio communication apparatus, and said transmitting part radio communication apparatus inserts said known reference signal into said data, in accordance with the insertion interval of said known reference signal reported from said receiving part radio communication apparatus, and transmits to said receiving part radio communication apparatus.

76. (New) A radio communication system that is provided with a transmitting part radio communication apparatus and a receiving part radio communication apparatus, in which an insertion interval of a known reference signal inserted into data that is propagated in a communication between said transmitting part radio communication apparatus and said receiving part radio communication apparatus is variable,

wherein said transmitting part radio communication apparatus and said receiving part radio communication apparatus have known reference signal insertion interval acquiring sections that can acquire the insertion interval of said known reference signal, and

the insertion interval of said known reference signal acquired by said transmitting part radio communication apparatus and the insertion interval of said known reference signal

acquired by said receiving part radio communication apparatus are used to determine the insertion interval of said known reference signal inserted into said data.

77. (New) A radio communication method used in a radio communication system that is provided with: a plurality of radio communication apparatuses; and a communication managing apparatus communicable with said plurality of radio communication apparatuses, in which an insertion interval of a known reference signal inserted into data that is propagated in a communication between each of said plurality of radio communication apparatuses and said communication managing apparatus is variable, including:

a step where said communication managing apparatus determines the insertion interval of said known reference signal which is optimal in the communication with each of said plurality of radio communication apparatuses; and

a step of storing the insertion interval of said known reference signal which is optimal in a propagation path to each of said plurality of radio communication apparatuses.

78. (New) A radio communication method used in a radio communication system that is provided with: a plurality of radio communication apparatuses; and a communication managing apparatus

communicable with said plurality of radio communication apparatuses, in which an insertion interval of a known reference signal inserted into data that is propagated in a communication between each of said plurality of radio communication apparatuses and said communication managing apparatus is variable, including:

a step where each of said plurality of radio communication apparatuses determines the insertion interval of said known reference signal which is optimal in the communication with said communication managing apparatus; and

a step of storing the insertion interval of said known reference signal which is optimal in a propagation path to said communication managing apparatus.

79. (New) The radio communication method according to claim 78, including a step where each of said plurality of radio communication apparatuses refers to a report signal which is reported to any of said radio communication apparatuses by said communication managing apparatus, and determines the insertion interval of said known reference signal which becomes optimal in the propagation path to said communication managing apparatus.